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10/552,406	10/07/2005	Chang-Jong Oh	9720-1 (175206)	9313
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EXAMINER				
RAMOS, JAVIER J				
ART UNIT		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip@akerman.com

Office Action Summary

Application No.

10/552,406

Applicant(s)

OH, CHANG-JONG

Examiner

JAVIER J. RAMOS

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 October 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SI.08)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Interval Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

1. Claims 1-9 are currently pending in this application.

Claim Objections

2. The claims are objected to because they include reference characters which are not enclosed within parentheses.

Reference characters corresponding to elements recited in the detailed description of the drawings and used in conjunction with the recitation of the same element or group of elements in the claims should be enclosed within parentheses so as to avoid confusion with other numbers or characters which may appear in the claims. See MPEP § 608.01(m).

3. Claim 6 is objected to because of the following informalities: Reference character "17" has been used to designate both L shaped toothed slots (see claim 6 – should be referenced to 25) and an "upper plate" (see p. 14, lines 6-14). Therefore, it is unclear what portion of the system the Applicant is referring to when it references to object 17. Further, reference numeral 17a is not found in any of the currently provided drawings. Finally, object 19 is referred to as a guide slot in claim 6 and a worm gear on page 11 of the instant application. It is suggested that the Applicant correct any other discrepancies between the cited object numbers in the pending claims. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 9 recites the limitation "teethed portions" and "teeth slots." There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

Drawings

6. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the teethed edge 17a, as claimed in claim 6, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an

application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. **Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Wang et al. (US 6,816,177 B2).**

9. In regards to claim 1, Wang teaches an apparatus for receiving a television or a navigator display monitor for vehicles, in which a liquid crystal monitor is ejected/received from/into a case in slide manner (**Fig. 1**) while is tilted in horizontal direction when the monitor is ejected from the case (**Figs. 9 and 10**), the apparatus comprises: a chassis panel having synthetic resin sliders positioned at both sides thereof, the sliders being slid along guide rails mounted to inner sides of the case (**Figs. 5 and 6; Col. 3, Lines 60-67 and Col. 5, Lines 18-33, the slide blocks 425 of the**

lower casing 42 are slidably inlaid in the channels 339 of the base board 33 to serve as guide rails, the Examiner takes official notice that it is well known in the art for objects such as the slide blocks to be made out of some kind of plastic material); a tilting body being connected to a monitor cover frame to which a monitor cover is mounted (Fig. 5, Objects 2 and 4, the control panel 2 is connected to the transmission mechanism 4) and being tilted in horizontal direction along a pair of teathed slots formed at the chassis panel (Figs. 9 and 10, horizontal tilting along a pair of teathed slots 338, see also Col. 6, Lines 1-26); a driving motor provided at the tilting body (Fig. 7, Object 4411, power source) and a gear train for reducing speed of the driving motor (Fig. 7, first gear set; see Col. 4, line 49 to Col. 5, Line 34); a pivoting plate (Object 1313, movable plate) having a pivoting gear (Fig. 7, Object 1314) rotated by the driving motor and being rotatably mounted at the tilting body (Fig. 7, the movable plate 1313 is mounted to the lower casing 42 of the transmission mechanism 4) to be pivoted in the rotation direction of the pivoting gear (the movable plate is pivoted in the same direction as the rotation of the screen, see Figs. 9 and 10); and a pair of rotating shafts (Objects 338) being rotatably installed to the tilting body (the shafts 338 are connected to the transmission mechanism 4 which horizontally tilts, further the shafts are “rotatably installed” via the second and third gear sets, 442 and 443) and having a upper gear engaged with a teathed portion of the teathed slots (Figs. 9 and 10, see the smaller “upper” gear engaged with the teathed portions of objects 338 above objects 4423 and 4433) and a lower gear engaged with intermediate gears installed to both sides of the tilting body (Figs. 9 and

10, the larger “lower” gears, 4423 and 4433, are engaged with the intermediate gears of the power sources that are installed on both sides of the transmission mechanism), while engaged with the pivoting gear when the pivoting plate is pivoted, respectively (Figs. 9 and 10, the gears are all engaged during the pivoting operation as seen in the referenced figures).

10. In regards to claim 2, Wang teaches that the gear train (see Col. 4, Line 49 to Col. 5, Line 5) includes a worm gear mounted to a shaft of the driving motor (Object 4412, spiral gear), a helical gear engaged with the worm gear (Object 4415, engaged via the gear 4413), and a small gear formed integrally with the helical gear (Object 4415, the small gear that is attached to the top of the larger, lower gear portion) and engaged with the pivoting gear (Gear is engaged via gear 1415 as disclosed in Col. 5, Lines 6-17).

11. In regards to claim 3, Wang teaches a pivoting plate that has a bent piece being guided along an arc guide slot formed at the tilting body (Fig. 5, Object 425, the bent pieces on the edge of the transmission mechanism that guide the mechanism during rotation; Col. 3, Line 60 to Col. 4, Line 9 and Col. 5, Lines 18-34).

12. In regards to claim 4, Wang teaches that the teethed portion is only formed at an inside edge of the teeth slot (See the teethed portions of objects 338).

13. In regards to claim 5, Wang teaches that the guide rails have a protector made from synthetic resin at front end thereof, respectively (**Fig. 7, the curves piece (not numbered) to the left of object 425 which is a protector for the guide rails that separates the transmission mechanism from the rails; even though Wang is silent to the materials that compose the apparatus, the Examiner takes official notice that it is well known in the art for objects such as the curved piece to be made out of some kind of plastic material).**

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. **Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al. (US 6,816,177 B2) in view of Endo et al. (US 6,731,350 B2) and Kim (KR 10-0534173 B1 – English machine translation attached).**

16. In regards to claim 6, Wang teaches an apparatus for receiving a television or a navigator display monitor for vehicles, in which a liquid crystal monitor is ejected/received from/into a case in slide manner (**Fig. 1**) while is tilted in horizontal direction when the monitor is ejected from the case (**Figs. 9 and 10**), the apparatus comprises: a chassis panel being connected to a monitor cover frame to which a

monitor cover is mounted (**Fig. 5, Objects 2 and 4, the control panel 2 is connected to the transmission mechanism 4**) and having a pair of toothed slots having toothed edge (**Figs. 9 and 10, Object 338**) and a plurality of support and guide slots (**Figs. 5-10, there are many support and guide slots throughout the system, for example, but not limited to, objects 339, 425, 322, 33 (with all of the support and guide slots attached thereon), and 337**), the monitor cover having straight portions connected to guide rails of the case in straight line when the monitor cover frame is disposed horizontally (**Object 331, the rails of the transmission mechanism 4 that are attached to the slide channels 323 via the slide blocks 332**); a tilting body (**Object 4, transmission mechanism**) having a plurality of pins supported at several points (**Figs. 9 and 10, there are a plurality of “pins” that are holding various parts of the transmission mechanism together, some indicated by small circles in figs. 9 and 10**) and guided by the support and guide slots (**the pins are attached to the transmission mechanism 4 and are therefore guided in a similar manner to the mechanism**) and being pivoted about imaginary centers when the tilting body is tilting by driving of a driving motor provided inside thereof (**see the horizontal tilting in Figs. 9 and 10, which satisfy the claim limitation of being pivoted about imaginary centers**); and a pair of clutch mechanisms (**Figs. 9 and 10, the mechanism that attaches to objects 338 on each side, containing a motor and the appropriate gears – gear sets 442 and 443**) including a lower clutch shaft (**Objects 4432 and 4422**) driven by the driving motor (**Motors, 4421 and 4431**), an upper clutch shafts (**the shaft the goes between gears 4433 and 4423**) having upper gears (**Objects 4423**

and 4433) engaged with the toothed edges and frictionally coupled to the lower clutch shaft **(the gear 4423/4433 is engaged via toothed edges to shaft 4422/4432)**; wherein the upper gears of clutch mechanisms rotate in a same direction **(both upper gears (4422 and 4432) will rotate in the same direction during horizontal movement of the transmission mechanism 4)**.

It is noted that Wang does not specifically teach a spring for pressing the lower clutch shaft against the upper clutch shaft, respectively.

In analogous art, however, Endo teaches a spring for pressing the lower clutch shaft against the upper clutch shaft, respectively **(Fig. 3, the springs (S2) are used to engage upper gears (10a and 10b) connected to an upper shaft (from 16 and 18) – which can be thought of as an upper clutch - to a lower shaft (5 and 6); Col. 4, Lines 35-57)**.

It would have been obvious to combine the known prior art elements (taught by Wang and Endo) according to known methods in order to yield predictable results. The combination of Wang and Endo teaches each element claimed, although not necessarily in a single prior art reference. The only difference between the claimed invention and the prior art is the lack of the combination of the elements into a single reference. Therefore, one of ordinary skill in the art could have combined the cited elements of Wang with the spring engagement elements of Endo, as taught above, by known methods and each element cited would merely perform the same function combined as it does separately. Further, one of ordinary skill in the art would have recognized that the result of improving the teaching of Wang by enabling the control of

the engagement of the clutch mechanisms was predictable. *See MPEP* §§2141 and 2143.

Further, the combination of Wang, as modified by Endo, does not specifically teach a pair of L shaped toothed slots having toothed edge, but instead each reference individually teaches substantially straight toothed slots (**Wang: Objects 325 and 338; Endo: Fig. 2, Objects 5 and 6**).

In analogous art, Kim teaches a pair of substantially L shaped slots that are used to guide the rotation of the screen delivery mechanism when a screen is already extended and upright (**Fig. 5, the two curved - L shaped - slots (Objects 23a and 23b, rotation restriction slots) that are utilized in rotation of the rotary guide panel 23**).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Wang, as modified by Endo, by utilizing the guide slots in order to limit the lateral movement of the screen delivery mechanism, as taught by Kim, in order to prevent the screen delivery mechanism from rotating beyond a specified amount, thereby avoiding damage to the delivery mechanism.

17. In regards to claim 7, Endo teaches that the lower clutch shaft has serration grooves formed at an upper surface thereof, the upper clutch shaft 43b has serration grooves 47b frictionally coupled to the serration grooves 47a of the lower clutch shaft by the spring, at lower surface thereof (**Fig. 3, the s2 springs that are used to couple the upper and lower shafts as detailed in the rejection to claim 6, further, all of the**

components that form the respective shafts and their intermediate connections have serration grooves as can be seen in Fig. 3).

18. In regards to claim 8, Kim teaches that the support and guide slot is positioned at central portion of the chassis panel and is formed V-shape of which each side has a certain curvature **(Fig. 5, the two curved - L shaped - slots (Objects 23a and 23b, rotation restriction slots) that are utilized in rotation of the rotary guide panel 23 are positioned in the center of the chassis panel and have certain curvature).**

19. In regards to claim 9, Wang teaches that the teethed portions are only formed at an outside edge of the teeth slots **(see the teethed portions on the outside of objects 338).**

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAVIER J. RAMOS whose telephone number is (571) 270-3947. The examiner can normally be reached on Monday to Thursday - 9 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark K. Zimmerman can be reached on (571) 272-7653. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Javier J Ramos/
Examiner, Art Unit 2625

/Mark K Zimmerman/
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